Sabah Nepenthes Expeditions 1982 & 1983

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In March 1982 Robert Oliver and myself organised an expedition to Sabah. This rip was mildly successful. The second expedition in 1983 was highly successful. On the 1983 expedition Greg Russell (QLD), a long time C.P. mate of ours, joined us. Greg flew from Queensland to Perth where he joined Robert and myself for the flight to Sabah. There being no direct flights to Sabah, our first stop was Singapore, overnight. The trip to Singapore was a lot of fun as the jumbo had only 58 passengers and we had the back half of the plane to ourselves.

From Singapore to Kota Kinabalu only took a few hours. After we had passed through customs in K.K. we picked up our hire car and headed for the hills about a half hour out of town. The 1983 expedition was well prepared: 12′ x 10′ tent, three fold up beds, water barrels and cooking gear; you name it, we had it. This trip Robert and I decided to go Hollywood style. Our 1982 trip was a two-man tent (dog-box) and very little gear. No way can you rely on picking up the items you think you might need in Sabah. If the items you think you might need are there, they are surely hidden and scattered in K.K.

There are no road signs in Sabah and finding your way around is basically a hit and miss affair. You can't rely on the locals for directions as many of them don't speak English. The 1983 trip proved Robert and myself had a good memory as we didn't get lost once.

From K.K. we travelled south to the Sipitang area; it took us all of the day to travel 60 miles. The roads are kind of rough, like you can park your car in the pot holes and be shaded most of the day. In the early evening we reached the Sipitang area, pitched our tent, made a meal then got stuck into the scotch. Whisky, I believe, is a very important item one should use when camping in the jungle. (Truly, I'm deadly serious.) All water must be chlorinated (we used Puratabs)—with whisky added it kills the chlorine taste and makes the drinking water more drinkable. We used whisky in our early morning cup of tea (a nice malty taste), in our large water bottle with Saminade (when hiking), and for knock out drops at night so we could get a good night's rest. I also believe it kills the bad belly bacteria which is very easily picked up in this part of the world. After the end of the 1982 expedition both Robert and myself had a bad dose of the Borneo Belly for two weeks, a sickness I wouldn't wish on anybody; it was hell. In 1983 none of us got sick, both during and after the trip.

Our first day in Sipitang area was our first encounter with *Nepenthes,* the plants we had travelled so far to find. *N. rafflesiana, N. gracilis* and *N. ampullaria* were discovered fairly quickly. The *N. rafflesiana* found in this part of the world are most varied both in pitcher shape and colour compared with the *N. rafflesiana* found on the Malaysian mainland and Singapore. In our opinion some of the *N. rafflesiana* we collected were truly top *Nepenthes. N. gracilis* varied little and only a few specimens were collected. Hybrids were found between *N. rafflesiana* × *N. gracilis, N. rafflesiana* × *N. ampullaria* = *N. trichocarpa.* Now and again *N. mirabilis* was found growing in the wetter areas, no hybrids were found with *N. mirabilis* as one of the parents, although later in the trip we were to have success in this area.

The following day we discovered *N. albomarginata,* an all light green form with the distinctive white band just below the peristome. Greg found one specimen—light purple/grey with maroon specks all over the pitcher. Combined with the snow white band it was truly an outstanding *Nepenthes.*

The *N. albo-marginata* from the Sipitang area, I believe are very different from the *N. albo-marginata* found on the Malaysian Mainland (in pitcher shape, colour and hairyness under the leaves). On the first expedition to Sabah I found what looked like a hybrid between *N. albo-marginata* × *N. rafflesiana* in this same area. I have this *Nepenthes* in cultivation and I'm waiting for a mature pitcher to develop so I can confirm this theory.

After the *N. albo-marginata* patch was properly investigated (all morning) we set off to find *N. bicalcarata* in the swamp forests around Mesapol. The jungle here was thick; we had to cut our way through every yard we traveled. One time Robert took a swipe at a small sapling with his jungle knife and was quickly covered in native hornets. Having stirred up a nasty little problem, Robert covered about thirty paces in one second; fortunately he didn't get stung. All afternoon until early evening set in we bombed through this thick jungle, high humidity and heat, biting insects, *Pandanus* Palms (which cut like hell) we were completely tired when we gave up looking for *N. bicalcarata.*

The following day we tried another swamp forest not far from the previous day's location. After about three hours of bombing through the jungle we came across *N. bicalcarata,* and all joy broke loose with much yelling and screaming. We must have sounded like three Orang-utans in a dog fight. *N. bicalcarata,* what a plant. Some were thirty feet into the tree tops, most of the plants were growing in thick *Pandanus* groups. Greg and myself took twenty minutes to cut our way into one plant which was a distance of only three paces into the *Pandanus* thicket. In 1982 Robert and myself failed to find *N. bicalcarata,* but we discovered later (1983) that we were only about one mile away from where we looked for *N. bicalcarata* in 1982. From Sipitang area we headed back to Kota Kinabalu and jumped on a plane to Lahad Datu on the East coast of Sabah. We left most of our camping gear in K.K. as we were going to stay in a hotel in this part of Sabah. (We wished we had taken the tent with us.) The hotel was rough to say the least: I got bitten by bed bugs on the first night. We couldn't have a shower or flush the toilet as Lahad Datu was in severe drought and the water was only turned on for twenty minutes a day. When the water was turned on we found that the tap water was sea water. Luckily we had brought water with us from K.K., with this water and Coca-Cola we managed to quench our thirst. On arrival we found there was a cholera epidemic in Lahad Datu, so we decided not to drink or eat any local food or water.

The following day we headed for the mountains outside of Lahad Datu. On one particular mountain we found a moss forest at 1600′, rather low for a moss forest. In the moss forest we found *N. stenophylla, N. tentaculata* and a few hybrids of *N. stenophylla* × *N. tentaculata.* Robert and myself knew this hybrid was here as we had collected the same hybrid by accident the previous year. Below the moss forest we found *N. reinwardtiana,* both the all green form and an all maroon form. Between 1000′ and 1400′ we found *N. macrovulgaris. N. macrovulgaris* is a provisional name applied to this *Nepenthes* by John Trumbull and his wife Anne Middleton after they had discovered this new species. John and Anne will be describing this *Nepenthes* later, when they have gathered more information from herbariums around the world. *N. macrovulgaris* is a beautiful *Nepenthes* and rather variable in its shape and size. The colour of the pitchers, as with most *Nepenthes,* is also variable. In cultivation it is a good grower in cooler conditions. A good cross section of the variable plants was collected along with seed.

At the end of the day we headed back to the hotel. That night we decided to get out of Lahad Datu first thing in the morning. The reason for our change in plans was that we had been told by an English engineer who was working in the area that the cholera had gotten out of control. He reported that the day we

Nepenthes macrovulgaris (Turnbull)

Photos by Allen Lowrie

N. macrovulgaris. Upper and lower pitcher selection.

N. albo-marginata

N. macrovulgaris (Turnbull)

N. rafflesiana

N. bicalcarata

arrived three people had died and today six people departed this world. In the local hospital there were 300 people with cholera with more people flooding in all the time.

The following morning we raced off to the local airline office and managed to book a flight out of Lahad Datu that morning to Sandakan. We couldn't get on a plane to K.K. direct but we could fly to Dandakan, stop 6 hours, then later in the day get a flight to Kota Kinabalu. When we arrived back in K.K., later that day, we were informed that Lahad Datu was in quarantine; in fact, the quarantine was applied to Lahad Datu one hour after we had flown out of the town. When we arrived back in Australia two weeks later we found out that Lahad Datu was still in quarantine; that is, no one into the town or out of the town. We thanked our lucky stars that we were not caught in Lahad Datu.

From K.K., in our hire car we headed through the Crocker Ranges to Ranau, here we made camp at one of the most beautiful places in Sabah. Some 10 miles out of Ranau there is a river junction with shallow fast running cool water, surrounded by jungle on all sides. Here we spent the day swimming, washing clothes and generally having a relaxing time; we needed it. The heat, the rough roads, the fast pace all got the better of us. We were dead tired.

After a day's rest and feeling refreshed, we headed up a mountain along native tracks east of Mt. Kinabalu. At the 4,500′ elevation, we came across *N. fusca, N. stenophylla* and now and again *N. reinwardtiana*. The *N. stenophylla* on this mountain were different from the plants we had found at Lahad Datu. The hairs under the leaf of the *N. stenophylla* in Lahad Datu were longer and thicker. *N. tentaculata* was also found at this elevation, here again, the *N. tentaculata* found in Lahad Datu was different from the species found on this mountain. Further up the trail we found *N. burbidgae*. Not a large population of these *Nepenthes* was found. As a guess, I would say there were only about 30 plants in the group scattered over a 100 yards. In the *N. burbidgeae* patch there also were leeches. Everywhere we walked, we got covered with these nasty little creatures. As fast as we pulled them off our legs, there was another one to take its place. On the 1982 expedition, Robert got a leech in between his toes; when he removed the leech he couldn't stop the bleeding. To wash the wound clean he used the fluid out of an unopened *N. burbidgeae* pitcher. To his amazement and mine, the bleeding stopped. After our 1982 expedition, I caught up with John Turnbull and his wife Anne in Sydney, when I was on a business trip there. Anne told me she had a nasty experience with a jungle knife and cut her finger rather badly, as it happened, in a *N. burbidgeae* area. Anne also washed her wound in the fluid from a *N. burbidgeae* unopened pitcher to clean the wound, when she found also that the bleeding stopped. There must be something in the fluid of unopened *N. burbidgeae* pitchers (maybe other species as well) that has the ability to stop bleeding. Maybe researchers should take up these events—who knows, a new drug to help mankind may be discovered.

In the Ranau area in the mountains along with *N. fusca, N. tentaculata, N. stenophylla* and *N. reinwardtiana,* we found with *N. burbidgeae* hybrids of *N. burbidgeae* × *N. fusca.*

As on the first trip, Mt. Kinabalu was not explored since the fines for being caught in the National Park with plants collected legally outside of the park are very high. It's not worth the risk of having your legally collected plants confiscated by the authorities. All the *Nepenthes* that can be successfully cultivated, i.e. plants up to 5000′ can be found outside of the National Park. We feel apart from *N. lowii* which is also found out of the Park (T. Trus Mardi and Mt. Mulu) all the other *Nepenthes—N. villosa, N. rajah, N. edwardsiana* are alpine plants and don't take to sea level cultivation all that well.

On returning to K.K. we then flew over to Kuala Lumpur (Malaysia) here we met up with Roger and Marjan Shivas who are from Brisbane. Roger and Marjan kindly put us up at their apartment and joined us on our daily field trips around K.L. Luckily they had a few free days off from their work at the university.

Our first field trip took us up to the highlands about an hour's drive from K.L. The mountains in this region were a bit over 6,000 ft. At the summit of one mountain we found *N. macfarlanei, N. gracillima* and *N. sanguinea,* including quite a few hybrids between these three species. Later in the day at 6000 ft. we were all caught in a heavy downpour of rain and we were all soaked to the skin. Lower down the mountain the temperature rose and we all managed to dry out.

Another day we explored the lowlands, in an area of swamp land surrounded by low hills we found: *N.mirabilis, N. ampullaria, N. gracilis,* all growing together. In amongst the true species we found *N. mirabilis* × *N. ampullaria, N. gracilis* × *N. mirabilis,* and *N. ampullaria* × *N. gracilis* = *N. trichocarpa.* On a slight rise, in this same area I was fortunate enough to find a huge clump of a fantastic hybrid, which we feel could be *N.* × *hookeriana* × *N. mirabilis.* Although in the immediate area we found no *N. rafflesiana,* we felt it could be found if one explored the surrounding area more closely. The *N. mirabilis* around the K.L. region is rather varied and many of these plants sport rather wide peristomes. Roger showed me one photo he took of a *N. mirabilis* which had a peristome nearly ¾ inch wide.

As the final days of our trip drew to a close we said goodbye to Roger and Marjan and flew from K.L. to Singapore. We spent the last day shopping in Singapore and later that night we boarded the flight to Perth. The jumbo again was only slightly full (78 people). We had a smooth flight to Perth; on arrival in Perth we were all thoroughly searched by the customs

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N. stenophylla

N. tentaculata

Author Allen Lowrie with giant *N. sanguinea* × *gracillima* hybrid. See article beginning on page 88. Photo by Rob Oliver.

Cephalotus follicularis
Grown and photographed by Andrew Hanlon

GROWING CEPHALOTUS IN AUSTRALIA

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I have been growing Cephalotus for about 5 years now, using all sorts of "recommended" potting mixes and micro climates with varying results. Some method were good while others were disastrous. Last year I wrote to Allen Lowrie in Western Australia who specializes in these unique plants and he recommended using a good quality pure German peat moss as a medium. So I repotted all my adult Cephalotus into 6 inch full length plastic pots with about one inch of crocking in the bottom to allow for good drainage. I then moved all my plants into the Nepenthes hot house. The hot house has the following conditions: Winter minimum temperature is 55° F (12.8° C); summer maximum temperature, 100° F (37.8° C); humidity is 85-98%; shading is about 50-60% and there is a continuous air circulation system, automatic heating, venting and misting system. The misting jets do not spray directly onto the Cephalotus, however with the humidity of around 90%, the pots only require a little water around the edge every month or so in winter to keep the peat moss damp. It is important to remember that under cool or cold conditions during winter, when growth almost stops, not to allow the plants to get very wet or otherwise the roots will rot. In the summertime when temperatures rise up to about 90-100° F, I stand the Cephalotus in about ½ inch of water which allows the plants to draw water up through the crocking as re-quired. When most of the water in the tray has been used or evaporated, I then add more.

Under these conditions, Cephalotus really thrive, with pitchers 1.5-2 inches long and with good coloration. Last year, I had a number of seedlings that sprouted on their own, so this year I plan to do a little hand pollination and experiment with fertilizers. The Cephalotus in the photo is in a 6 inch pot and shows a slightly different form, inasmuch as the inside of the pitcher lid turns completely red after 4-5 months while the peristome remains green. The pitcher on the left opened the end of last summer and is 1.65 inches (42mm) long. The pitcher in the middle opened mid-winter and is 1.5 inches (38mm) long and the pitcher on the right opened 6 weeks prior to the beginning of spring. It measures 1.9 inches (48mm) long, the lid is 1.1 inches (28mm) wide and the total length from the top of the lid to the toe of the pitcher is 2.3 inches (59mm) long. Most of the Cephalotus are similar to the center pitcher but the peristomes are also colored red. Finally, perhaps I should point out that I have been growing Cephalotus under the described conditions for about 15 months, so as yet I am not aware of any possible long term problems. However, I am not expecting any since without any help from me, the plants have produced seed, which germinated, and the seedlings are growing well.

Nepenthes (from p. 93)
guys (10 of them). No doubt these guys thought they had hit the jackpot—surely no one goes to the places we had in our passports, unless they're up to no good. Every tent pole and tooth paste tube was checked and tasted. Two hours later we were released.

The first and especially the second expedition overall were highly successful, with many new varieties added to our respective C.P. collections. We all look forward to the day when we can make new hybrids from our new mother stock.

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